

CS 208

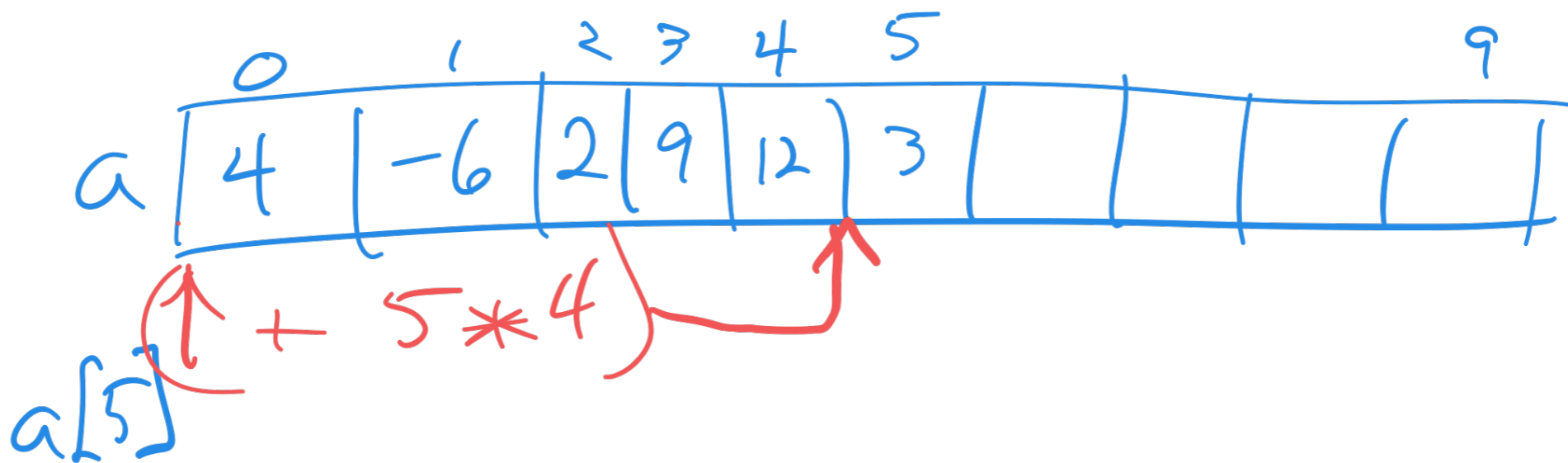
Mon, 24 Apr 2023

Why $(\%rbx, \%rcx, 4)$? $\rightarrow \text{sizeof(int)}$
 $\rightarrow \text{rbx}$

C: `int a[10];`
... initialize a ...
`int sum = 0;`
`for(int k=0; k < 10; k++) {`
 `sum = sum + a[k];`
`}`

To access $a[k]$

$$(\text{address}_a) + k * \text{sizeof(int)}$$



edi ← a
esi ← b

cmp %esi, %edi
result = a - b

jg jump if result > 0
i.e. a > b

esi ← a

test %eax, %eax

result =
eax AND eax
set ZF, SF

if eax == 0
ZF = 1
if eax != 0
ZF = 0

jz ← jump if result
Zero

LEA — "load effective address"

"Effective address" — an address
that's typically the result of
some computation

"load" — put it somewhere